



2813

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Gurtej Singh Sandhu et al.

Title: METHOD TO REDUCE FIXED CHARGE IN CVD OZONE DEPOSITED FILMS

Docket No.: 303.573US1

Filed: April 22, 1996

Examiner: Erik Kielin

Serial No.: 08/636,069

Due Date: March 4, 2003

Group Art Unit: 2813

Commissioner for Patents
Washington, D.C. 20231

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We are transmitting herewith the following attached items (as indicated with an "X"):

- ☒ A return postcard.
- ☒ An Amendment and Response (7 Pages).
- ☒ A Clean Version of Pending Claims (9 pgs.).

Please consider this a PETITION FOR EXTENSION OF TIME for sufficient number of months to enter these papers and please charge any additional required fees or credit overpayment to Deposit Account No. 19-0743.

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on this 4 day of March, 2003.

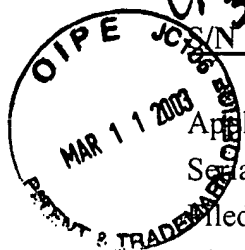
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08/636069H38/H
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FILMS

3/17/03

John H

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111Commissioner for Patents
Washington, D.C. 20231

Applicant has reviewed the Office Action mailed on December 4, 2002. Please amend the above-identified patent application as follows.

IN THE CLAIMS

Please substitute the claim set in the appendix entitled Clean Version of Pending Claims for the previously pending claim set. The substitute claim set is intended to reflect amendment of previously pending claims 1, 43, 45-48, 50 and 53. The specific amendments to individual claims are detailed in the following marked up set of claims.

1. (Amended) A chemical vapor deposition (CVD) process for depositing borophosphosilicate glass films on a substrate surface, the process comprising:
 - disposing the substrate within a chemical vapor deposition reaction chamber;
 - heating the substrate to a temperature within a range of at least 480°C to about 700°C;
 - introducing a gas volume of SiO₂ precursors into the chamber;
 - admitting a gas volume of ozone into the chamber;
 - admitting a dopant source for phosphorus into the chamber;
 - admitting a dopant source for boron into the chamber; and
 - exposing a reaction volume of gases located above the substrate surface within a chemically reactive distance of the substrate to a high intensity light source without directly exposing the substrate surface to the light source to increase the functional atomic oxygen concentration and reduce the fixed charge in the deposited films, the reactant gases in the reaction volume taking part in heterogeneous chemical reactions, rather than homogeneous reactions taking place in the chamber outside of the reaction volume; and

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